



Deconstructing buildings
to reduce solid waste



Cleaning up
contamination
from the past



Facilitating the accomplishment
of our training mission

Directorate of Environmental Compliance and Management

FY04 Business Report

Sustain the Mission, Secure the future



responsibility by providing proactive and competent environmental, energy and natural resource management services and operations. We accomplish the mission by means of a diverse team of individuals integrating professionally all environmental and mission-related requirements within our sphere of influence.

Challenges in FY04...

Fort Carson faced ongoing challenges in FY04 due to the return and the redeployments in support of Operation Iraqi Freedom and the Global War on Terrorism. Soldiers and equipment were again mobilized, which created ongoing environmental challenges, including ensuring hazardous materials left behind were properly stored or disposed of. Budget constraints have caused the DECAM to do more with less to accomplish its mission.

DECAM vision

An enterprising and vigilant DECAM enabling military training and mission readiness in a culture of environmental stewardship that anticipates future requirements.



DECAM mission

The DECAM is a customer-oriented, interdisciplinary environmental organization established to provide for the long-term accomplishment of the military mission. We manage, conserve and demonstrate sound stewardship of the public trust for the environmental resources under our



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How we met our goals in FY04...

Our Strategic Goals consist of four pillars: Compliance, Restoration, Prevention and Conservation. The following section outlines the desired outcomes of the four pillars and how individual program areas met their performance goals in FY04.

I. COMPLIANCE: Attain and sustain compliance with federal, state and local environmental laws, regulations, directives and policies. The Compliance pillar is measured by the following strategic outcomes:

- ☞ Reduce, control or abate pollutants, emissions and discharges to the environment from military support operations.
- ☞ Comply with statutory and regulatory mandates, requirements and procedures.

- ☞ Reduce enforcement actions by regulators.

CLEAN WATER

Fort Carson met its Clean Water goal of no permit exceedances from regulated permitted discharge points in FY04. The Installation sewage treatment plant runs efficiently and cleanly due to effective management practices by the post operations and maintenance contractor.

Notable Clean Water accomplishments in FY04 included conducting an Installation evaluation related to the Clean Water Act's potential impact to training activities on Fort Carson and Piñon Canyon Maneuver Site (PCMS). The evaluation looked at the Installation storm water system and potential impacts to drainage areas from training activities.

Strategies & Projects for FY05:

- ☞ Continue working with the Pikes Peak Area Council of Governments in developing water quality management plans for the region.
- ☞ Partner with the Directorate of Public Works (DPW) and the U.S. Army Corps of Engineers (USACE) to evaluate Individual Sewage Disposal Systems on Fort Carson and the PCMS for possible changes, repair or upgrade.
- ☞ Partner with DPW and USACE to reduce the amount of sediment from Fort Carson being carried into streams during storms.

CLEAN AIR

The Air Quality Program did not meet its goal of maintaining compliance with federal, state and local air regulations as measured by zero Title V permit noncompliance issues or annual state inspection findings. Although Fort Carson did not receive any Notices of Violations (NOVs), some



Magnesium chloride is sprayed on priority dirt roads on Fort Carson to prevent excessive dust in the air.

noncompliance issues were discovered during a state inspection, the most significant being dust transported off post due to a construction project.

The Air Program made significant strides in FY04 in reducing emissions. The Installation achieved a reduction of approximately 5 tons of volatile organic compound (VOC) emissions and a 3.5 ton reduction in hazardous air pollutants (HAPs) as compared to 2003. The reductions were possible due to DPW and the post operations and maintenance contractor using waterborne, low-VOC traffic paint. Another initiative in FY04 was removing AAFES gas stations on the Installation from Fort Carson's air emissions inventory. This action will save air emission fees and help Fort Carson to avoid becoming a major hazardous air pollutant source.

Strategies & Projects for FY05:

- ☞ Decrease Installation-wide HAPs and VOCs by working with the Directorate of Logistics (DOL) to use an alternative solvent to Methyl Ethyl Ketone (MEK) and to use a paint gun cleaning unit to help eliminate the use of MEK.

- Finalize negotiations with the State/EPA on amending the state regulation concerning smoke and obscurant training restrictions.
- Work with the DPW, DOL and outside organizations to increase the use of alternative, cleaner fuels on post to help decrease air emissions and decrease equipment maintenance and operating costs.

ASBESTOS/LEAD/RADON/ENVIRONMENTAL ABATEMENT

We met our Asbestos goal of completing all initial asbestos surveys by FY05 and completing 150 re-surveys each year (a total of 650 buildings) to reduce potential exposure of personnel working in buildings. The goal was met through the aggressive efforts of the staff.

No lead work was necessary in FY04 due to residential housing being maintained by the housing contractor. Future lead abatement is anticipated in FY05.

The Radon Performance Goal of re-testing and mitigating 10 buildings per year that exceeded radon gas action levels was met through the availability of Army funding to accomplish the work.

A new goal was established for polychlorinated biphenyls (PCB) for testing of transformers in FY04. The goal is to test the PCB transformers when they are taken out of service and to conduct inspections on 10 percent of all PCB transformers on the Installation. These measures are being taken to reduce the possibility of fines and potential exposure to excessive PCB levels. The goal will be met in FY05.

In FY04, 143 asbestos surveys were completed. Asbestos surveys, sampling and potential abatement is required. Radon mitigation was completed at the West Child Care Center; Bldg. 6060, in December. Inspections were conducted on 23 PCB-containing transformers to check

FY04 DECAM Business Report



Asbestos removal is one of the environmental abatement services conducted by DECAM.

their integrity with no issues discovered.

Strategies & Projects for FY05:

- Provide extensive asbestos and lead abatement services at a proposed new housing construction site that has tested high for asbestos and lead.
- Support Fort Carson and DPW renovation and construction projects with high quality asbestos, lead and radon survey and abatement services.
- Improve PCB management and eliminate PCB containing equipment in accordance with requirements as quickly as feasible.

SPILL RESPONSE/PREVENTION

Fort Carson had one reportable spill in FY04 and did not meet the goal to reduce the number of spills reportable to regulatory agencies to zero. The DECAM captured the less than 100 gallon paint spill using a vacuum truck. Spill control training is provided during environmental awareness training given to new civilian employees and military members.

The Spill Control Program contributed to the reduction of reportable spills through proper management and awareness training. In FY04, the Facility Response Plan

(FRP) was implemented as an Installation-wide response plan in the event of oil spills.

Strategies & Projects for FY05:

- ☞ Support Installation spill response needs by providing equipment maintenance, training and exercise participation, and restocking materials for both the DECAM and the Fort Carson Fire Department.
- ☞ Reproduce and maintain spill plans for the Installation. Spill plans are provided for posting at new facilities.

NOISE

The Noise Program did not meet the goal of producing noise data that contains zero percent wind contamination compared to FY01 standards. Wind contamination data is at 35 percent and is constantly being improved upon with updated software as it becomes available.

The program continued to work closely with El Paso and Pueblo Counties and land developers on resolving encroachment issues. Cooperative efforts continued with the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) to update noise contours for Fort Carson using noise data collected on the Installation.

Strategies & Projects for FY05:

- ☞ Restart noise monitoring program at PCMS.
- ☞ Expand the Fort Carson Noise Monitoring Program.
- ☞ Update the Environmental Noise Management Plan.
- ☞ Continue collaboration with land use planning agencies and developers to prevent encroachment that may negatively affect military training.

DRINKING WATER

We achieved the goal of zero exceedances of National

Primary Drinking Water Standards for consecutive drinking water systems. Fort Carson has highly qualified drinking water system operators that maintain the water distribution system and perform testing on the drinking water coming on to the Installation. Fort Carson has had no standard violations in more than 11 years.

Notable Drinking Water Program accomplishments in FY04 included completing assessments of Fort Carson and PCMS drinking water system vulnerability and completing the Fort Carson Water Resource Management Plan.

Strategies & Projects for FY05:

- ☞ Prepare sampling locations for annual lead/copper testing throughout the distribution system. Choose locations for trihalomethane/haloacetic acids testing.
- ☞ Conduct a water system vulnerability assessment and emergency response plan (ERP) for Turkey Creek.
- ☞ Complete Water Emergency Response Plans for PCMS.

HAZARDOUS WASTE

Fort Carson met its goal to perform hazardous waste operations with zero formal enforcement actions, compliance orders or NOVs and no more than three informal enforcement actions. The goal was accomplished through the extensive environmental awareness and training programs provided to Installation personnel.

The Hazardous Waste Program facilitated the processing of 38,917 pounds



The Free Issue program accepts turned in hazardous materials, such as maintenance products, for reissue to units.

of hazardous waste from the Installation in FY04. This reflected a 16 percent reduction from 2003. There were also 29,714 pounds of universal waste processed, which was an 8 percent reduction from 2003.

Strategies & Projects for FY05:

- ❧ Continue Free Issue Program at Bldg. 9249. The program redirects hazardous materials, such as maintenance products, that are still usable to units who would otherwise have to purchase them. In addition, free-issue also eliminates the cost for disposal of the products as a hazardous waste.
- ❧ Prepare and update the Fort Carson Hazardous Waste Management Plan.
- ❧ Renew the Part B Permit Fort Carson holds with CDPHE.

UNDERGROUND STORAGE TANKS (USTs)

Compliance was not maintained with federal, state and local UST regulations in FY04. There were no monthly inspection tests conducted for the leak detection systems on 21 out of the 30 USTs located on Fort Carson. There are two possible reasons for the lack of monthly inspection records: lack of training and equipment malfunction. Units in charge of operating USTs either do not know the requirement for monthly inspections on leak detection equipment or believe the daily volume reading they submit satisfies the regulatory requirement. Rotation of military personnel through the facilities does not sustain the level of training needed to conduct monthly monitoring tests of leak detection equipment. Additionally, leak detection equipment frequently malfunctions and may not have been properly installed.

In FY05, the majority of these USTs are scheduled to be removed and the remaining USTs will be evaluated by a specialist to ensure the leak detection equipment is in proper



Excavating old USTs taken out of service is mandated because they pose a potential source of contamination to soil and groundwater.

working order. Special emphasis will be placed on ensuring the remaining USTs are in full compliance with inspection documentation requirement. Training will be given to those responsible for the USTs on leak detection equipment operation and troubleshooting.

Annual corrosion protection tests and annual leak detection tests for tanks and lines were completed on all USTs at Fort Carson and PCMS in FY04. However, there was no documentation showing monthly leak detection inspections due to malfunctioning equipment and/or personnel taking their records with them when deployed.

Strategies & Projects for FY04:

- ❧ Remove 18 USTs.
- ❧ Continue to survey UST locations. To date, 95 percent of all Fort Carson USTs have been surveyed.
- ❧ Continue Environmental Protection Agency (EPA)/Colorado required record keeping for USTs.
- ❧ Continue reconciling Fort Carson records and sites with the Colorado Department of Labor and Employment (CDLE) Office of Public Safety (OPS).

ABOVE GROUND STORAGE TANKS (ASTs)

We met our goal to reduce inspection findings by the OPS to zero. DECAM environmental compliance assistance visits had an enormous impact on our ability to meet the goal for ASTs. This was due largely to the distribution of the new OPS required AST inspection forms and giving special environmental awareness training to every environmental protection officer (EPO) and alternate that had ASTs in their unit area.

Accomplishments included the completion of AST inventory and location verification.

Strategies & Projects for FY05:

- ❧ Verify and update the 2004 groundtruthing (physical verification that an item on an inventory list matches the actual item) effort and ensure that all references to the number of ASTs on Fort Carson are correct. The groundtruthing effort will also aid in inspecting ASTs to ensure they are grounded and are equipped with leak detection, overflow and spill control equipment.
- ❧ Continue surveying AST locations. Currently, 95 percent of all ASTs have been surveyed. The current groundtruthing effort will include locating all ASTs using global positioning system (GPS) technology. This will enable the development of AST location maps that can be used in a tank tracking program, for Spill Prevention Contingency and Countermeasure Plan (SPCCP) updates and submittal to OPS for AST installation and closure applications.
- ❧ Implement a monthly inspection program to check 10 percent of all ASTs for required documentation and any maintenance issues.



The NEPA process is a necessary component of Installation and training operations.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The goal of 100 percent NEPA compliance for Fort Carson actions with potential to affect the environment was not met. Several Installation projects did not go through the appropriate project review process prior to implementation. This weakness poses a statutory compliance and military mission risk, which is being addressed through continued education of proponents.

The NEPA program is one of the most active environmental programs on Fort Carson. Coordination for NEPA compliance is required for every project to be completed on the Installation. In FY04, the NEPA program completed 92 Records of Environmental Consideration (RECs) for proposed projects and performed five Environmental Assessments (EAs).

Strategies & Projects for FY05:

- ❧ Provide oversight on EAs for PCMS Live Fire/Maneuver Range and Fort Carson's use of the U.S. Air Force Academy's (USAFAs) Bull's Eye Airfield .
- ❧ Support the Installation Public Private Ventures with

EAs, RECs, Findings of Suitability to Transfers (FOSTs) and Findings of Suitability to Leases (FOSLs).

- ☞ Complete preparation of EA and other NEPA documents as needed for Army transformation or other actions affecting Fort Carson.
- ☞ Provide comprehensive review for 10th Special Forces Group project planning: new facilities within the complex, Range 131C and off-post training.
- ☞ Develop an effective system to educate project proponents about their compliance obligations.

ENVIRONMENTAL PERFORMANCE ASSESSMENT SYSTEM (EPAS)

We did not meet our goal of completing corrective actions for all regulatory driven findings/deficiencies as identified in the external 2003 EPAS evaluation results identified in the Environmental Performance Assessment Report (EPAR). Fort Carson underwent an external EPAS in 2003 and although Fort Carson reduced the total number of inspection findings during this evaluation, there were repeat findings indicating continued need of effective, command support, program management, training and assessments.

The objective is to correct 100 percent of the Class I* findings within one year/FY04 and within three years for the Class II** findings/FY06. Fort Carson completed or closed 89 percent of the Class 1 findings from the 2003 EPAS and did not reach 100 percent correction by FY04.

**Class 1* findings are defined as those indicating current noncompliance with federal, state or local environmental regulation, permit, compliance agreement, consent order or NOV.

***Class 2* findings are those that indicate future noncompliance by not meeting a deadline or meeting an annual requirement such as training.

In FY04, the DECAM, conducted an Internal EPAS from May – September 2004 to inspect compliance with requirements and prepare for the next External EPAS.

Strategies & Projects for FY05:

- ☞ Update the Installation Corrective Action Plan (ICAP) for the external EPAS conducted in August 2003.
- ☞ Continue evaluation of the EPAS assessment process within the redesigned environmental training programs.
- ☞ Facilitate coordination between DECAM and Installation units and activities for corrective actions to be undertaken to eliminate, reduce or minimize deficiencies.

ENVIRONMENTAL TRAINING

The Fort Carson goal of maintaining 100 percent trained and certified EPOs and environmental protection noncommissioned officers (EPNCOs) within 90 days of appointment was not met. In FY04, 86 percent of the available Soldiers (approximately 90 percent of Soldiers assigned to Fort Carson were deployed overseas) were trained.

Training is the cornerstone of how we maintain compliance with environmental laws and requirements. In FY04, there were six EPO Certification Training Courses conducted for 142 military and civilian personnel. Environmental Awareness Training was provided to 73 Company Commanders/1st Sergeants. The abbreviated, basic environmental training was provided to approximately 275 new civilian employees.



Training provided to Soldiers helps prepare them for such contingencies as containing spills and aids in Installation compliance with inspections.

Strategies & Projects for FY05:

- 🌀 Host an Environmental Trainers Workshop.
- 🌀 Measure success of environmental training programs through Environmental Compliance Assessment Team (ECAT) visit inspection score results.
- 🌀 Initiate environmental awareness training and Sustainability and Environment Management System (SEMS) within the G3 troop schools training schedule.

II. RESTORATION: Mitigate contamination from past and current operations to protect human health and the environment and fulfill responsibilities established in environmental laws, regulations and permits. The Restoration pillar is measured by the following strategic outcomes:

- 🌀 Reduce sites requiring closure using the 1994 RCRA facility assessment as a baseline.
- 🌀 Reduce short- and long-term impacts to human health and the environment.

RESTORATION

Fort Carson is meeting its long-term goal to cleanup “high risk” sites by FY07. This goal will be accomplished through continued team work approaches from Fort Carson, CDPHE, USACE, U.S. Army Environmental Center (USAEC), the Northwest Region Installation Management Agency (IMA), and consultants.

The Restoration Program is charged with the task of mitigating past environmental damage on the Installation. This process requires rigorous coordination and approval through various state and federal agencies. Fort Carson made significant progress on closing out restoration sites in FY04.

The CDPHE approved 14 RCRA Facility Investigation reports and Risk Module I, which establishes background, site-specific screening levels for soil and will aid in site



The Restoration Program is charged with investigating and ensuring the clean up of contaminated sites.

investigation and closure. The CDPHE imposed Corrective Measure Studies (CMSs) on six IRP sites. A CMS is a comprehensive study of various remedies that would be applicable and most beneficial to a corrective action site. El Paso County granted an amendment to the Landfill 1 Certificate of Designation for the Combined Landfill Area (CLA) to establish the boundary of the landfill.

Strategies & Projects for FY05:

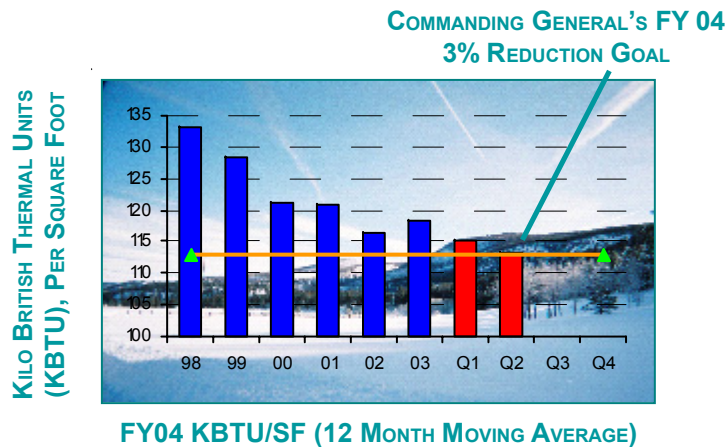
- 🌀 Complete excavation activities for the Grit/Oil Pit Interim Remedial Action.
- 🌀 Pursue “Remedy Complete” status from CDPHE for Landfill 5. This will officially put Fort Carson into the long-term monitoring phase for this site.
- 🌀 Initiate CMS work for the CLA and North Specker sites.
- 🌀 Pursue No Further Action (NFA) status for both Range 1A and Range 123 sites.
- 🌀 Receive approval of Risk Modules V and VI, which allow many sites to begin the NFA process.

III. PREVENTION: Adopt and implement integrated approaches, procedures and operations in all Fort Carson mission areas to minimize or eliminate environmental contamination and pollution. The Prevention pillar is

measured by the following strategic outcomes:

- ☞ Reduce toxic and hazardous waste material used in Installation processes and operations.
- ☞ Improve energy and water use efficiencies.
- ☞ Reduce solid waste disposal.

FORT CARSON ENERGY USAGE PER SQUARE FOOT SINCE FY98



ENERGY

The annual goal to reduce overall energy consumption by 3.0 percent compared to FY03 was not met. The Installation reduced overall energy use by 2.4 percent. The majority of the savings is attributed to approximately 12,000 Soldiers being deployed for six months of FY04.

Facility energy use was reduced by 26.1 percent per square foot from the baseline year of FY85. Water use decreased nearly 8.0 percent compared to FY03. Electric use increased 3.6 percent compared to FY03, and natural gas use decreased by 6.5 percent compared to FY03.

In FY04, Fort Carson hosted Headquarters Department of the Army (HQDA)-sponsored energy awareness seminars for Building Energy Monitors, the DPW and Installation leadership.

Strategies & Projects for FY05:

- ☞ Investigate and pursue opportunities to increase the renewable energy for Fort Carson through wind power purchases and investigation of solar applications.
- ☞ Work on Energy Savings Performance Contract for Fort Carson and attempt to re-initiate a lighting retrofit project.
- ☞ Complete an Energy Seminar for Fort Carson with assistance and funding from HQDA.

RECYCLING

The Recycling Program is striving to meet the goal of providing a customer-oriented recycle program that will support obtaining an Installation sustainability goal of zero waste by FY25, while meeting the Department of Defense diversion rate of 40 percent by FY05.

In FY04, the Recycle Program achieved a 31 percent diversion rate, which remained consistent with FY03 figures. The program is striving to overcome a lack of participation through increased education efforts.

Fort Carson decreased solid waste disposal by nearly 12 percent from approximately 12,635 tons in 2003 to 10,778 tons in 2004. In 2004, the solid waste disposal figure did not include construction and debris figures as in 2003.

Strategies & Projects for FY05:

- ☞ Facilitate coordination with military units and directorates to promote recycling, identify potential new commodities and develop new processes that meet the need of the customer.

- Support and coordinate with the Federal Bureau of Prisons and Defense Commissary Agency (Midwest Region), in developing and refining recycle programs that are mutually beneficial and foster resource sharing.



There were seven hybrid electric vehicles acquired in FY04 to complement the Fort Carson alternative fuel vehicle fleet.

POLLUTION PREVENTION

Significant progress was made in FY04 in the goal to reduce pollutants from Fort Carson to the environment by five percent per year using FY02 as a baseline.

The Pollution Prevention (P2) program uses new technologies to reduce impacts to the environment. In FY04, DECAM, DPW and the demolition contractor piloted the deconstruction of three buildings targeted for demolition, diverting over 220 tons of solid waste from going to a landfill. Other initiatives included upgrading seven vehicles in DOL to run on biodiesel and installing and operating two solvent distillation units for cleaning parts washer solvent from over 100 parts washers and weapons cleaners.

Strategies & Projects for FY05:

- Install a paint gun cleaner and minimizer at the Bldg. 8000 paint booth to reclaim paint gun cleaning solvents and reduce the disposal quantities of Methyl Ethyl Ketone (MEK).
- Continue investigating the feasibility of deconstruction techniques by disassembling the Golf Course Clubhouse.
- Contract with a local company to begin capturing and recycling used antifreeze.
- Investigate the recycling of garnet and plastic bead blast media used at Bldg. 8000 for use in removing paint from military vehicles and other metal machinery. Recycling of the spent bead blast media would eliminate disposal of one of the largest waste streams on the Installation.

IV. CONSERVATION: Conserve and protect natural and cultural resources consistent with the military mission for present and future generations. The Conservation pillar is measured by the following strategic outcomes:

- Sustain and improve training land condition and realism.
- Comply with statutory and regulatory mandates, requirements and procedures in order to reduce negative impacts on training and quality of life.
- Improve urban landscape and livability of the community.

NOXIOUS WEEDS

Fort Carson met its goal to actively treat noxious weeds on the Installation as per the Colorado Noxious Weed Act of 1996. Aggressive program management and implementation of various control methods have prevented noxious weeds from impacting training and neighboring landowners.

In FY04, 29,000 acres at PCMS and 7,000 acres at Fort Carson were surveyed for noxious weeds; and 70 acres at PCMS and three acres at Fort Carson were treated for



Goats as a mechanical is one strategy used to prevent the spread of noxious (non-native) weeds.

noxious weeds. The Noxious Weed Program conducted its second trial year of using goat grazing as a mechanical means to control weeds at PCMS.

Strategies & Projects for FY05:

- ❧ Implement survey for Colorado List A noxious weed, African Rue (*Peganum harmala*) per agreement with Colorado Department of Agriculture, State Weed Coordinator.
- ❧ Survey 10 percent of Fort Carson and the PCMS each year and treat noxious weeds in the surveyed acres. By the year 2014, the Fort Carson and PCMS Installation surveys will be done, with the goal of reducing the pervasiveness of noxious weed infestations by 10 percent each calendar year.
- ❧ Continue weed biocontrol program, which uses insects to control non-native weeds.
- ❧ Provide current weed infestation information to El Paso, Fremont, Pueblo, and Las Animas counties and the state of Colorado on a yearly basis.
- ❧ Continue to support and work with regional agencies to improve communication, education and management strategies of noxious weeds specific to areas of common interest on the boundary of Fort Carson.

FORESTRY ECOSYSTEM MANAGEMENT

The goal of conducting a fuels reduction/forest-thinning program equal to or greater than 0.1 percent per year at Fort Carson and PCMS was not met in FY04 due to a shortage in staff to prepare plans and budget constraints.

In FY04, the focus was on acquiring funding and development of a plan, in collaboration with USAFA and U.S. Forest Service (USFS), to implement forestry thinning operations at Camp Falcon to control outbreaks of ips beetle, mountain pine beetle and mistletoe. The agreement established with USAFA and USFS will provide for cooperative assistance from the USFS in Colorado to sustain and improve forest health and maintain the aesthetic appeal of forests at USAFA, Fort Carson and PCMS.

Strategies & Projects for FY05:

- ❧ Continue ips beetle control efforts through collaborative partnerships to assist with cutting down and treating current ips beetle infested trees.
- ❧ Survey forest stands that could potentially benefit by thinning operations to enhance military training, reduce hazardous fuel loads, improve tree stand resistance to disease and improve overall forest health.
- ❧ Assess the additional tree mortality currently experienced on Fort Carson and PCMS, attributed to drought stress, in relation to the forest management plan, increased fuel loads and forest dynamics.

WATER RIGHTS MAINTENANCE

We met our goal of no water rights considered for abandonment because we monitor and report water use responsibly (via the U.S. Geological Survey [USGS]) and maintain water diversion systems. Many of Fort Carson's water rights are junior and through beneficial use, such as recreation, we have been able to maintain them without

the state claiming the water rights were abandoned.

The program continued to maintain water rights for Fort Carson by working with the Lower Fountain Valley Water Conservation District to protect water rights across Hwy. 115 and working with the state dam inspector on seepage concerns at Townsend Reservoir.

Strategies & Projects for FY05:

- 🌀 Remove sediment accumulated at Teller Reservoir to restore water storage capacity.
- 🌀 Build islands in Teller Reservoir for nesting bird habitat.
- 🌀 Begin restoration of Townsend Reservoir.
- 🌀 Complete 33 percent of dam restoration projects on Fort Carson.
- 🌀 Stop leakage of water from Large and Small Bird Reservoirs by removing trees and roots from the dams on the reservoirs; refilling holes left by the roots with clay; and relining the reservoirs.
- 🌀 Repair Ripley Ditch leak, Rock Creek water diversion and Merriams Ditch Head Gate.
- 🌀 Map 50 percent of the water ditches on Fort Carson using GPS for accurate water rights maintenance.

WATERSHED MANAGEMENT

The DECAM is making progress in meeting its goal of 85 percent of all watersheds on the Installation being surveyed by 2007. In FY04, a watershed manager was hired and between 5 and 10 percent of the watersheds were surveyed.

Accomplishments in FY04 included the use of cultural technologies for weed control, sediment monitoring at PCMS, climate monitoring, ongoing biocontrol of weed technologies on Fort Carson and participation with the Fountain Creek Watershed Taskforce.

Strategies & Projects for FY05:

- 🌀 Develop a draft Watershed Management Plan.
- 🌀 Begin coordination and implementation of a monitoring strategy for Training Area B&C at PCMS, using remote sensing technology to quantify future training impacts at the watershed scale.
- 🌀 Coordinate with the State Water Resources Division on de-listing of Teller Reservoir from the Clean Water Act 303d. list of “Impaired Waters” due to mercury.
- 🌀 Survey Tamarisk weed infestations on Fort Carson and the PCMS.
- 🌀 Coordinate with the Natural Resources Conservation Service to update the PCMS soil/ecological site survey.

ENDANGERED SPECIES PROTECTION AND RECOVERY

The Installation met its goal of receiving no jeopardy opinions issued by the U.S. Fish and Wildlife Service (USFWS) due to Army actions that would be expected to directly or indirectly reduce the survival or recovery of a listed species.

Careful monitoring, consistent dialogue with the regulators and proactive habitat protection/supplementation (habitat conservation easements) enabled us to prevent such findings. There has been a



The great horned owl is one species of wildlife inhabiting Fort Carson lands.

potential for critical habitat designation for Threatened and Endangered species; however, Wildlife staff have participated in cooperative scientific efforts to help in making determinations that have ultimately resulted in Fort Carson lands not being designated as critical habitat.

The Endangered Species Protection and Recovery Program works to protect species, while ensuring mission accomplishment is possible. In FY04, staff formulated a comprehensive ecosystem monitoring program for Fort Carson and the PCMS. These actions included cooperative and interested party meetings with 100 participants from varying agencies and organizations. Annual surveys were completed for black-tailed prairie dog monitoring on Fort Carson and the PCMS. An assessment of Mexican spotted owl habitat on Booth Mountain, Fort Carson, was also completed.

Strategies & Projects for FY05:

Candidate Species –

- 🌀 Conduct monitoring surveys for expansion, contraction and persistence of known black-tailed prairie dog colonies.
- 🌀 Conduct Arkansas darter surveys.

Listed and Proposed Species –

- 🌀 Conduct presence-absence surveys in 25 percent of potential Mexican spotted owl nesting canyon sites on the PCMS.
- 🌀 Conduct nesting surveys for the mountain plover at Fort Carson and the PCMS.

Conservation Easements and Ecoregional Assessment/Management –

- 🌀 Aggressively develop conservation easements and leases that will provide Fort Carson with the capability to improve populations of sensitive species such as the mountain plover and black-tailed prairie dog on a

regional ecosystem basis.

- 🌀 Implement a “Greenprint” program designed to identify biological and social encroachment issues within a five-mile buffer surrounding Fort Carson and the PCMS.

PEST CONTROL AND PESTICIDE REDUCTION

Fort Carson met its pest control goal of 100 percent compliance with pesticide applicator federal/state pesticide application requirements by ensuring DoD applicators were certified.

The Installation did not meet the Department of the Army mandated 50 percent pesticide reduction goal in FY04. A total of 4,690 pounds of active ingredient (PAI), which included 4,107 PAI of herbicide and 583 PAI of insecticides was used. This was an increase of 418 percent over the 1,122 PAI used in FY03.

The significant increase in pesticide use was caused by enhanced landscaping and improvements. Additionally, a high rainfall year after four years of drought created a situation where increased pesticide use was unavoidable to control weed growth.

Another high PAI use year in FY05 is anticipated, but then PAI use is expected to drop in the next few years once weed infestations are brought better under control.



Pest Control includes handling of such issues as applying larvicide to control mosquitoes and providing education and awareness about pests.

Pest Management continued the West Nile Virus (WNV) Management Program in FY04 on the Installation by updating the WNV Management Plan, treating streams and ditches for mosquito larva, conducting limited fogging operations in advance of community events and conducting mosquito surveillance and testing.

Strategies & Projects for FY05:

- ☞ Continue to use education and awareness programs to inform military and civilians on the Installation of alternatives to pesticide.
- ☞ Continue to perform as the Installation Pest Management Coordinator, implementing pest control activities and directing/coordinating/reporting all pest management operations for the Installation.
- ☞ Use chemical control as a last resort to control pests. Cultural, mechanical and biological control methods will continue to be first priority. When chemical control is required, the least environmentally-toxic pesticide and active ingredient (s) will be used.

WILDLIFE MANAGEMENT

We remained in compliance with the Migratory Bird Treaty Act (MBTA), as amended in 2002, with no violations. The program heavily emphasizes public education and awareness about birds and other protected species.

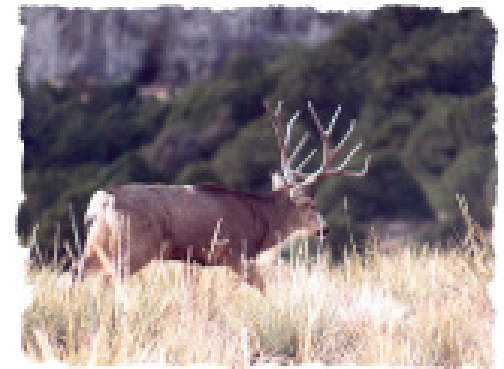
The Wildlife Management Program is also responsible for wildlife recreational opportunities on Fort Carson and PCMS. Many staff duties fall in the recreation arena and are reflected in the strategies and projects.

There were 1,194 fishing and hunting permits sold in FY04. Fort Carson fishing reservoirs were stocked with 9,000 pounds of rainbow trout and catfish. Wildlife programs were presented to students at Beacon, Webster and Thurman Elementary Schools; Mann Middle School; and Pikes Peak

Community College. Fort Carson supported the Colorado Division of Wildlife (CDOW) efforts to track chronic wasting disease (CWD) by testing elk and deer harvested on Fort Carson and the PCMS.

Strategies & Projects for FY05:

- ☞ Expand the CWD monitoring program to include aerial surveys of deer on Fort Carson and 100 percent tissue samples of deer taken on Fort Carson.
- ☞ Continue burrowing owl surveys to track occurrence and distribution.
- ☞ The DECAM will manage nuisance wildlife in the Cantonment area and provide for public safety in the event that a bear, mountain lion or rattlesnake is present in areas populated by troops, the civilian work force, housing residents or the public.
- ☞ Wildlife will work with the Directorate of Plans, Training and Mobilization (DPTM) to ensure that at least 21 days of big-game hunting are available on Fort Carson. The 21-day minimum will be adjusted depending upon achievement of harvest goals and availability of areas. Additional cow elk licenses will be available only to active duty Fort Carson Soldiers in FY05. The 21-day minimum may be altered to ensure that Soldiers drawing these tags have opportunities to fill their tag.



The Wildlife Management Program includes conducting big game hunting on Fort Carson and PCMS.

WILDFIRE MANAGEMENT

There were no major fire areas to rehabilitate in FY03 or in

FY04. In FY02, DECAM rehabilitated 100 acres out of 2,600 acres impacted by fires. Fort Carson did meet its goal of maintaining compliance with Regulation 9 of the Colorado Air Quality commission as it relates to wildfire management through prescribed burns.



Prescribed fires are conducted to offset the potential of an wildland fire.

Wildfire staff conducted prescribed fire operations at PCMS to support new small arms firing ranges and a prescribed fire at PCMS to protect habitat for the mountain plover, a sensitive bird species.

Strategies & Projects for FY05:

- 🌀 Continue to monitor, plan and rehabilitate major fire sites.
- 🌀 Continue to use prescribed fire as a management tool targeting up to 51,000 acres annually.

WETLAND PROTECTION AND RECOVERY

We met the goal of no net loss of wetland resources on Fort Carson and the PCMS. We ensured compliance through dialogue with regulators, use of the NEPA processes and adherence to the Clean Water Act. Wetlands and water resources are treated with considerable importance because they are limited in number and extent.

FY04 accomplishments included opening several ditches to fill North Side Reservoir. This provided water to reclaim two-to-three acres of wetlands dried by the drought.

FY04 DECAM Business Report

Strategies & Projects for FY04:

- 🌀 Begin filling the Dog Ponds (a series of ponds occasionally used by hunters to train hunting dogs), which will help maintain wetlands associated with these water bodies.
- 🌀 Support the development of environmental analytical models to assist decision makers and promote initiatives to protect and enhance ecosystems, including the use of inventories, partnerships with resource agencies, and practices such as wetland replacement and rehabilitation.
- 🌀 Augment the existing plant specimens identifying family, genus and species with descriptive characteristics, and maintain a herbarium with laminates of labeled wetland plants.
- 🌀 Continue to closely review all proposed project specifications and training plans for potential impacts to wetland resources.

URBAN FORESTRY

Fort Carson met its goal of achieving a greater than 90 percent survival rate for new plantings by requesting Soldiers to assist with the program. We ensured adequate watering was performed to offset ongoing drought conditions.

The Urban Forestry Program hosted Earth Day/Arbor Day 2004. Approximately 2,174 individuals participated, including Fort Carson schools and scout troops, in all the activities held (grocery bag art contest, essay contest, story reading, education fairs and Arbor Day tree plantings). There were 250 trees and shrubs planted during the Earth Day/Arbor Day 2004 events. Staff also planted approximately 250 replacement trees around the Installation.

Strategies & Projects for FY05:

- 🌀 Continue to monitor the maintenance of trees and shrubs in the Cantonment Area.

- ❧ Plan, organize and conduct an Earth Day/Arbor Day celebration in 2005.
- ❧ Continue to assist the DPW with a Xeriscape plan for Fort Carson.

CULTURAL RESOURCES MANAGEMENT

We are meeting the goal of achieving 100 percent compliance status with Section 106 of the National Historic Preservation Act (NHPA) by year-end FY06.

During FY04, approximately 100 archaeological sites were reevaluated to accurately determine eligibility status for inclusion in the National Register of Historic Places (NRHP).



Cultural resources on Fort Carson and PCMS encompass various periods of history. This rock structure down range dates to the 19th Century.

Cultural Resources Management accomplishments included government-to-government consultation with 13 federally-recognized Native American tribes to develop a Native American Graves Protection and Repatriation Act (NAGPRA) Comprehensive Agreement/standard operating procedure (SOP). More than 2,000 in-house and field re-evaluation actions were completed and the program achieved an approximate 98 percent compliance status with Section 106 of the NHPA by the end of FY04. Cultural efforts were

concentrated on the PCMS, but it is expected that the Fort Carson re-evaluation work will be completed during FY05.

Strategies & Projects for FY05:

- ❧ Continue the inventory of un-surveyed areas to identify/locate cultural resources.

- ❧ Fulfill re-evaluation work for Fort Carson. This project also entails the continuation of the documentary, database, report preparation portions for final compliance with Section 106 and State Historic Preservation Office (SHPO) consultation.
- ❧ Develop a Memorandum of Agreement (MOA) with the SHPO for the treatment of the National Register District-eligible Turkey Creek Ranch.
- ❧ Conduct testing of approximately 20 sites in areas with high potential for adverse impact to cultural resources due to changing military training strategies on the PCMS.
- ❧ Complete mitigation of five archeological properties on the PCMS, intended to remove them from “permanent” protection status.

PCMS ENVIRONMENTAL OPERATIONS

The Installation met its goal of no net loss of mechanized training land due to permanent natural resource requirements over FY00 baseline through continued coordination with stakeholders, including G3/Range Division.

Program accomplishments included facilitating opening 20,000 acres of previously designated soil conservation protection area at PCMS to training. Staff also improved Burson Camp road with crushed limestone and rebuilt approximately one-half mile of the Sharps Ranch road to improve drainage, visibility and drivability.

Strategies & Projects for FY05:

- ❧ Act as a liaison between DECAM personnel at PCMS and on Fort Carson, G/3 Range Division and military units. Refine the vision, future direction and scope of PCMS environmental operations.
- ❧ Comply with all applicable statutory and regulatory environmental requirements as needed for each activity and initiative.

- Continue to assist the Forestry Program in monitoring, planning and rehabilitation of major fire sites.

A look back at FY04...

Post pursues Army Compatible Use Buffer (ACUB)

Fort Carson, in partnership with the USFWS, The Nature Conservancy (TNC), USAEC and a neighboring private landowner, implemented a two-year conservation lease in 2003, protecting more than 30,000 acres of land at the southern boundary of Fort Carson from development.

In FY04, progress was made to move beyond the lease to securing funds to purchase the conservation easement through the Department of Defense (DoD) as part of the ACUB program. There are multiple, critical benefits to Fort Carson ACUB initiatives, including:

- The conservation and protection of species habitat may lessen land-use restrictions on training lands by preventing the potential listing of sensitive species, such as the mountain plover and black-tailed prairie dog, as threatened or endangered.
- Having significant areas of protected habitat adjacent or in close proximity to the installations will reduce



Land designated for the ACUB will protect habitat several sensitive wildlife and plant species, including the mountain plover.

pressure on wildlife and birds to migrate to other, less threatened environments on Fort Carson and the PCMS, thereby reducing interference with military missions.

- Creating external buffers on the southern and eastern boundaries of Fort Carson from the rapidly growing communities of Pueblo West and Penrose, will protect and sustain current training capabilities at its Multi-Purpose Range Complex (MPRC), a large live fire range and at an Air National Guard bombing range on Fort Carson near the southern boundary.

Fort Carson begins integration of sustainability and an environmental management system (SEMS)

Fort Carson has long been an Army model of environmental stewardship. The DECAM has an established history of community involvement and a sustainability approach was a logical next step at Fort Carson.

The Acting Secretary of the Army and the Army Chief of Staff plan to designate sustainability as the Army's Strategy for the Environment in October 2004.

Sustainability is acting today to meet the needs of the present in a manner that allows future generations to meet their needs. Sustainability considers not only the environmental aspects and impacts of operations and decisions, but it also considers the social factors (society, economy and individual well-being) associated with an organization's actions.

Operating in a sustainable fashion goes beyond compliance, saves money, and considers the well-being of everyone on the post and in the community, *now and in the future*. Fort Carson began its journey toward Installation sustainability with a regional conference in 2002, where Fort Carson and community stakeholders established 25-year goals. Since that time, the Installation has been pursuing the goals through numerous initiatives and projects.

25-Year Sustainability Goals

☞ *Sustain all facility and mobility systems with renewable sources and reduce water use.*

☞ *Reduce automobile dependency and provide balanced land use and transportation systems.*

☞ *Improve communication to foster understanding and attain a "Community of One."*

☞ *Enhance partnering to collaboratively develop, integrate and implement regional sustainability.*

☞ *Reduce the total weight of HAPs emissions to zero.*

☞ *Further integrate sustainability principles into the Fort Carson Master Plan.*

☞ *Build all applicable facilities at Fort Carson to high-performance standards.*

☞ *Key stakeholder groups are trained, compliant and motivated toward sustainability principles.*

☞ *Ensure that all procurement actions support sustainability.*

☞ *Reduce the total weight of solid and hazardous waste disposed of to zero.*

☞ *Ensure that training ranges are capable of supporting current and future military training.*



The Army was directed to support an environmental management strategy by Executive Order 13148 "Greening the Government through Leadership in Environmental Management," a presidential mandate signed April 21, 2000.

One result of the mandate was that the Army required all installations to implement an Environmental Management System (EMS). While there are many examples of EMS, the Army selected ISO 14001, an International Standards Organization environmental standard, as the benchmark for its EMS. An EMS provides a system to manage an organization's environmental impacts in relation to its mission and environmental aspects.

Fort Carson has integrated sustainability with the EMS, an SEMS, to get the benefits of both. Fort Carson began implementation of the SEMS with signing of the SEMS policy by the Commanding General September 23, 2003. The SEMS will be in place by December 2005 and the objective is to be in full conformance by December 2009.

Fort Carson held a regional sustainability workshop in October 2003 and is planning the next annual sustainability workshop for October 2004. The 2004 workshop will update the community and stakeholders about Installation progress toward sustainability and achievement of 25-year goals,

including the SEMS, in fulfillment of 2002 conference commitments.

Mountain Post pilots building deconstruction to reduce solid waste

The DECAM, DPW and the Installation demolition contractor spearheaded a pilot building deconstruction project in summer 2004 to set the trend on recycling valuable materials on a large-scale on Fort Carson.

The deconstruction project serves as an example of the innovative recycling opportunities pursued by Fort Carson, and ties in to the Installation's sustainability efforts to reduce waste going to landfills.

The main materials recovered from first pilot building, Bldg. 6286, included beams, flooring and trusses. Other materials recovered from the building during the deconstruction process included fluorescent light fixtures, ceiling tiles, windows, lighting and plumbing fixtures, scrap metal and more than 500 glass window blocks.

This first pilot building had a diversion rate of 40 percent and what was learned about the process helped prepare the contractors for deconstructing other buildings. The remaining two buildings, Bldgs. 227 and 226, were wooden structures deconstructed at the end of summer. Both buildings yielded approximately an 80 percent diversion rate. At the end of the three building pilot deconstruction project, a total of 220 tons of material was diverted from going to a landfill. In the next five years, there are approximately 30 buildings with the potential for deconstruction on the Installation.

DECAM aids in mission accomplishment

Several DECAM programs work hand-in-hand with military training and Installation construction planners to support the mission.



The NEPA review process and cultural resources surveys help facilitate training by ensuring environmental and cultural laws are followed.

The NEPA program is involved with every facet of planning on Fort Carson and PCMS to ensure environmental requirements are met. Critical EAs were completed for the building of a Combined Arms Collective Training Facility, an Urban Assault Course, a Breach Facility and a Tactical Unmanned Aerial Vehicle Facility.

The Cultural Resources Management Program does crucial work surveying and clearing lands of any potential cultural resources thereby opening land for use. In FY04, cultural surveys were completed on approximately

15,000 acres. Investigations at PCMS facilitated the completion of six Small Arms Ranges, three Forward Operating Bases (FOBs) and three Military Operations on Urban Terrain (MOUT) locations.

Management plans guide our success

THE DECAM STRATEGIC PLAN

The strategic plan relates the vision, mission, values and goals of DECAM. This overall plan is used by command, other directorates and the public to understand why DECAM performs its tasks and how we measure performance. The vision of the plan is clearly stated as “enabling military training and mission readiness in a culture of environmental stewardship that anticipates future requirements...” This vision allows internal and external stakeholders to understand that the DECAM’s desire is to sustain the environment for future military training missions and reminds DECAM

program managers that their jobs encompass protection of the environment and the military mission.

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN (INRMP)

The Fort Carson INRMP is the guide for the natural resources program on Fort Carson and PCMS from 2002 through 2006. The INRMP helps ensure the maintenance of quality training lands to accomplish critical military mission on a sustained basis. It also aids in ensuring natural resources conservation measures and Army military mission activities are integrated and consistent with federal stewardship requirements in order to support both our military mission and the needs of our region.

INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN (ICRMP)

The Fort Carson ICRMP provides guidance and procedures to enable the 7th ID and Fort Carson to meet its legal responsibilities at Fort Carson and PCMS for identification, evaluation and protection of cultural resources while causing the least disturbance to the military mission. The ICRMP integrates legal requirements for cultural resources preservation into the everyday operation of our mission and supporting activities.

Final tally in FY04

As depicted in the graph, the DECAM met 66 percent of its goals in FY04. Many of the challenges presented in FY04 dealt with troops returning and redeploying and budgetary constraints in the Army due to the Global War on Terrorism.

